10312

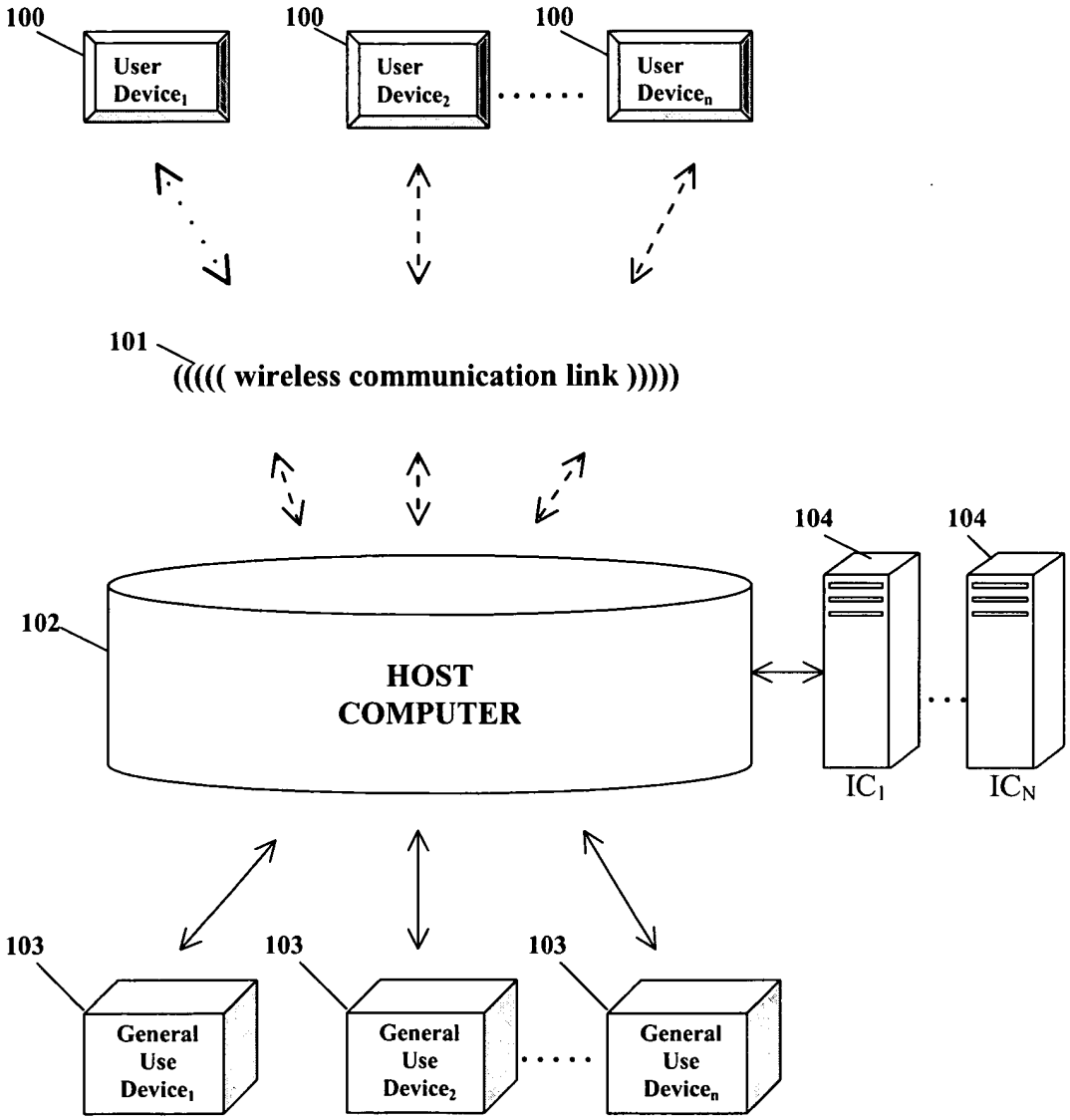
100
User Device1
100
User Device2
100
User Devicen
101
(((((wireless communication link)))))
102
HOST COMPUTER
104
104
IC1
ICN
103
General Use Device1
103
General Use Device2
103
General Use Devicen

FIG. 1

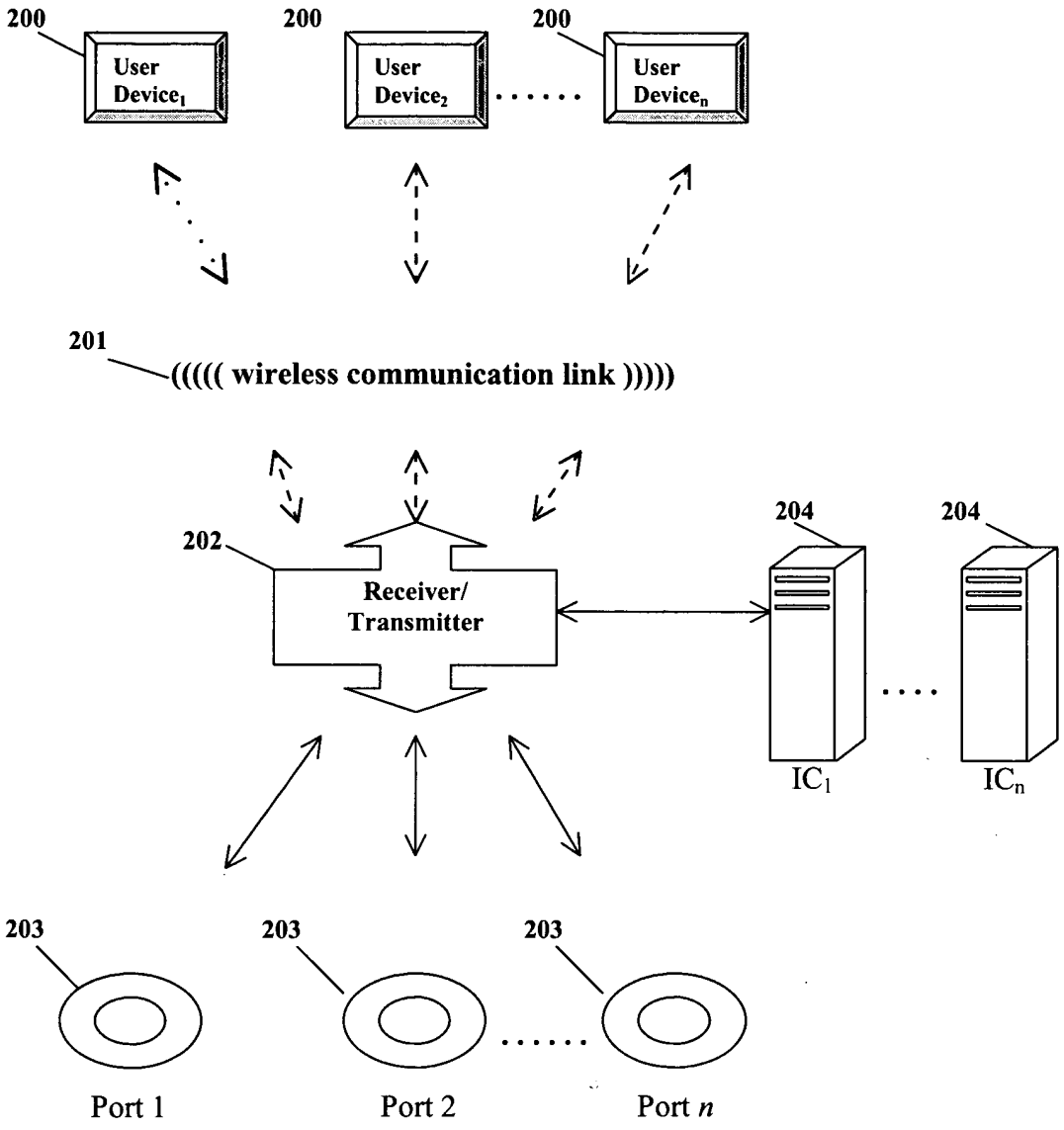
200
User Device1
200
User Device2
200
User Devicen
201
(((((wireless communication link)))))
202
Receiver/ Transmitter
204
204
IC1
ICn
203
203
203
Port 1
Port 2
Port n

FIG. 2

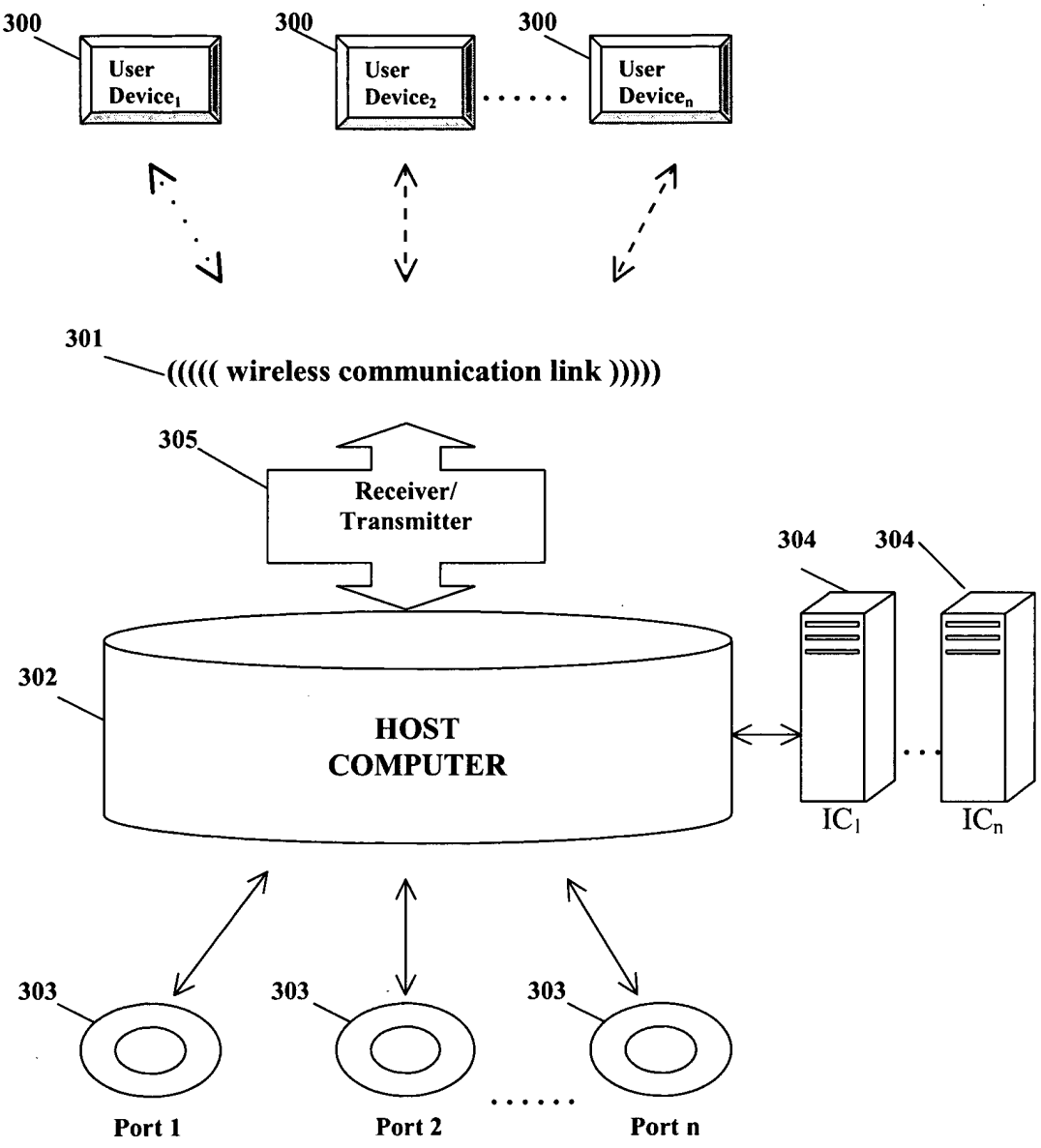
300
User Device1
300
User Device2
300
User Devicen
301
(((((wireless communication link)))))
305
Receiver/ Transmitter
304
304
302
HOST COMPUTER
IC1
ICn
303
303
303
Port 1
Port 2
Port n

FIG. 3

400

401

402

EXAMPLES OF INFORMATION TRANSMITTED BY USER TO HOST COMPUTER	
PATIENT DATA	CLINICAL DATA
1) Name | Address |Phone No. 2) Social Security No. | Birthdate 3) Race/Ethnicity 4) Medical History (e.g., prior illnesses, recent preventative tests/results, prior medical procedures/results, prior vaccinations, congenital defects) 5) Allergies 6) Habits (e.g., smoking, toxic exposure, drugs/alcohol) 7) Current and Prior Medications 8) Emergency Contact Information 9) Insurance Information 10) Employment Information	1) Vital Information (e.g., height, weight, temperature, blood pressure) 2) Chief Complaint(s) 3) Other Complaint(s) 4) Physical Examination Findings 5) Patient Answers to Diagnostic Questions 6) Laboratory Orders and Results 7) Diagnoses 8) Treatment Orders 9) Prescription and Pharmacy Information and Instructions 10) Date of Visit and Follow-Up Recommendations 11) Physician/Nurse/Med Tech/P.A. ID Information 12) Billing and Coding Decisions

FIG. 4

09704564 - 040706

500

EXAMPLES OF INFORMATION OUTPUT TO USER BY HOST COMPUTER

1) Patient Assessment Information

Recommendations for questions, physical examination, and medical tests (bloodwork, imaging, etc.).

Patient medical history data.

Name and comments from any referring physician(s).

Common oversights that may be checked at physician discretion.

Pertinent medical information, such as journal articles and the like.

2) Diagnosis Information

Names and descriptions of one or more alternative potential diagnoses.

Recommendations for additional data (e.g., pertinent negatives) that would exclude some potential diagnoses.

Pertinent medical information, such as journal articles and the like.

3) Treatment Order Information

Alternative recommendations for medication types and brands.

Alternative recommendations for surgical or non-surgical procedures.

Alternative recommendations for behavior (bedrest) or diet modifications.

Pertinent medical information, such as journal articles and the like.

4) Virtual Specialist Information

Data pertinent to specific ailment or injury.

Probability of certain actions or recommendations that would be given by specialist.

"Meantime care" – sufficient care until in-person consultation with specialist can be done.

Administrative Specialists such as billing and coding specialists.

0070704-3503950

FIG. 5

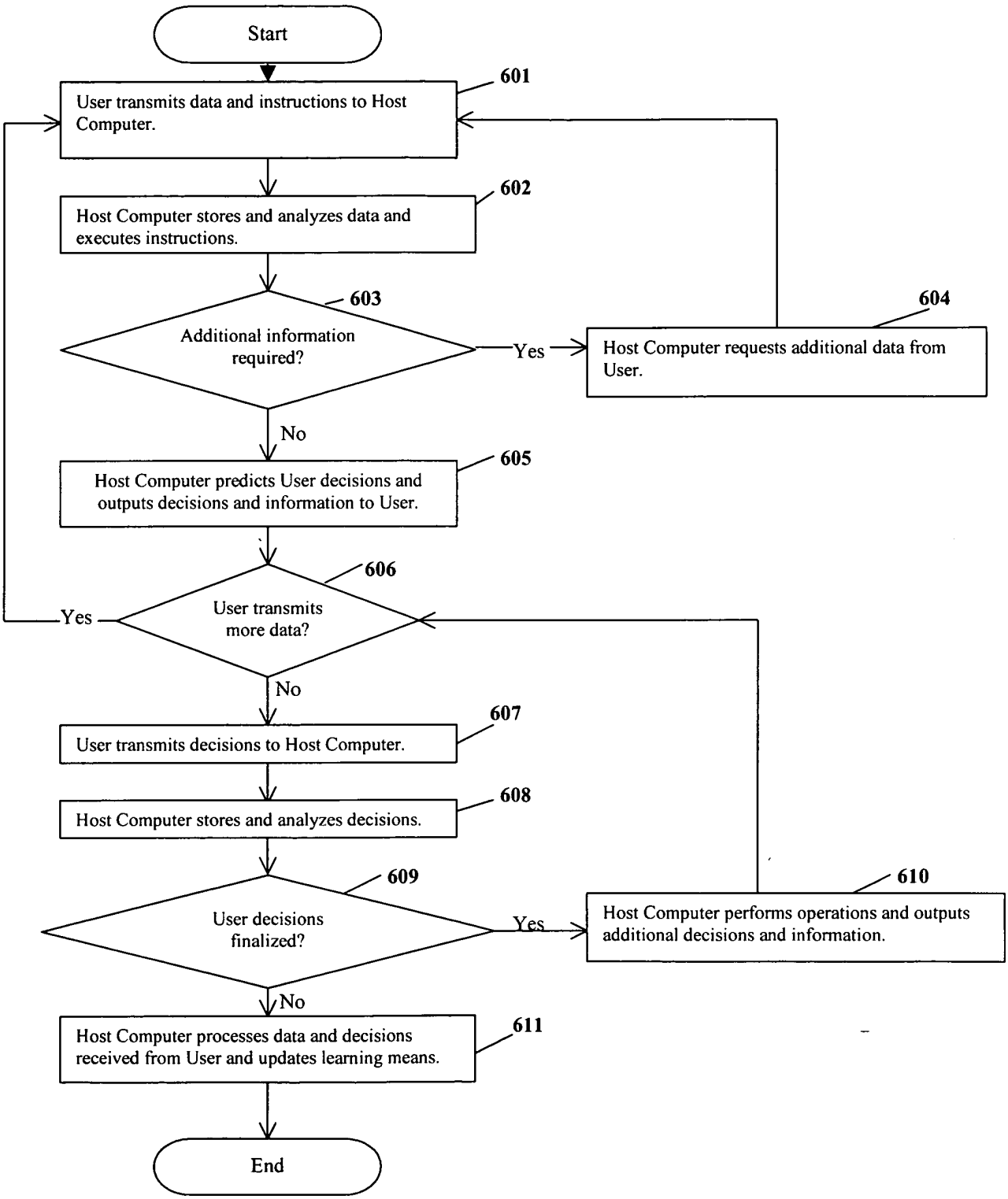
Start
User transmits data and instructions to Host Computer.
601
Host Computer stores and analyzes data and executes instructions.
602
Additional information required?
603
Yes
Host Computer requests additional data from User.
604
No
Host Computer predicts User decisions and outputs decisions and information to User.
605
User transmits more data?
606
Yes
No
User transmits decisions to Host Computer.
607
Host Computer stores and analyzes decisions.
608
User decisions finalized?
609
Yes
Host Computer performs operations and outputs additional decisions and information.
610
No
Host Computer processes data and decisions received from User and updates learning means.
611
End

FIG. 6

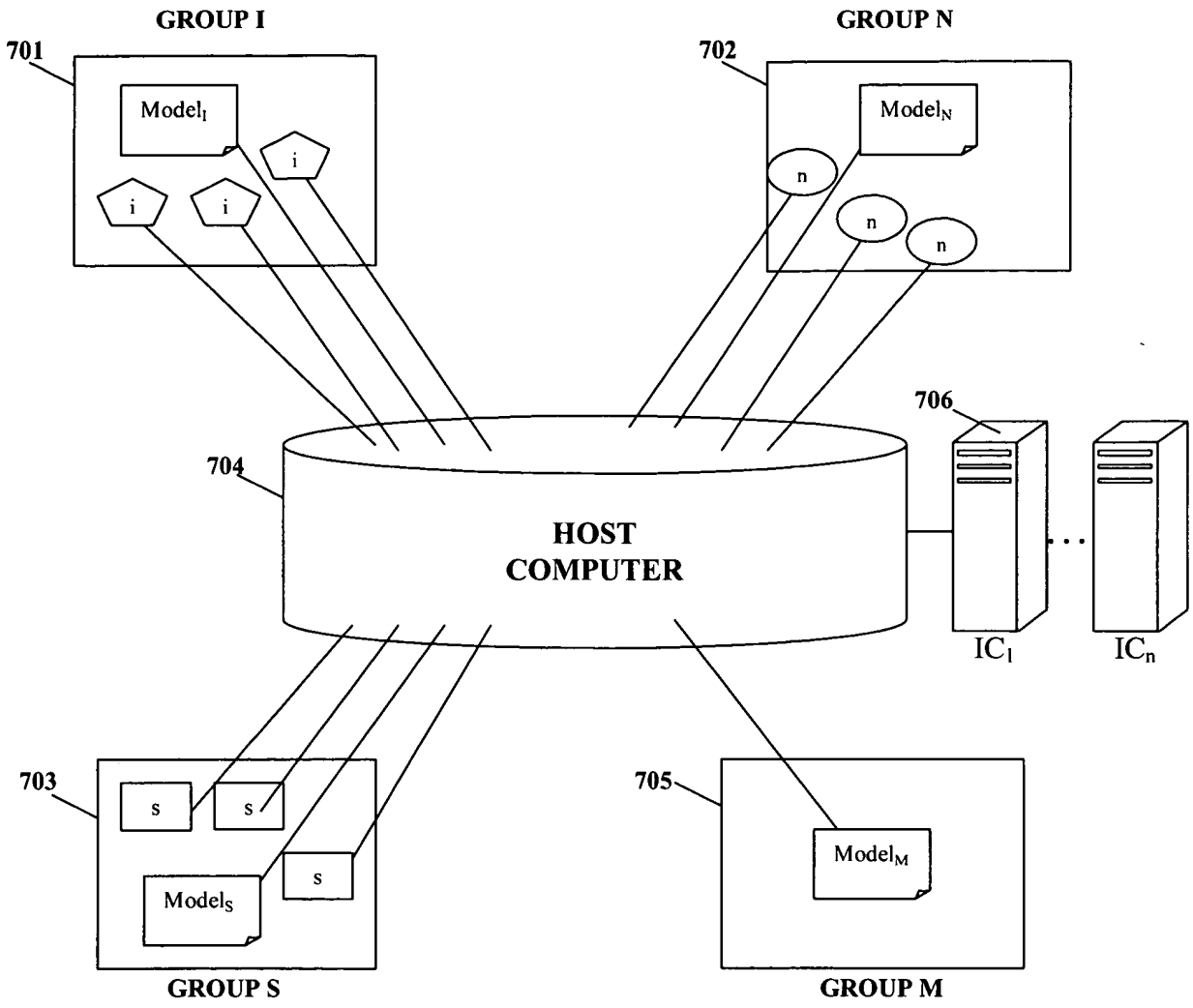
GROUP I
701
Model$_I$
i
i
i
GROUP N
702
Model$_N$
n
n
n
706
704
HOST
COMPUTER
IC$_1$
IC$_n$
703
s
s
s
Model$_S$
GROUP S
705
Model$_M$
GROUP M

FIG. 7

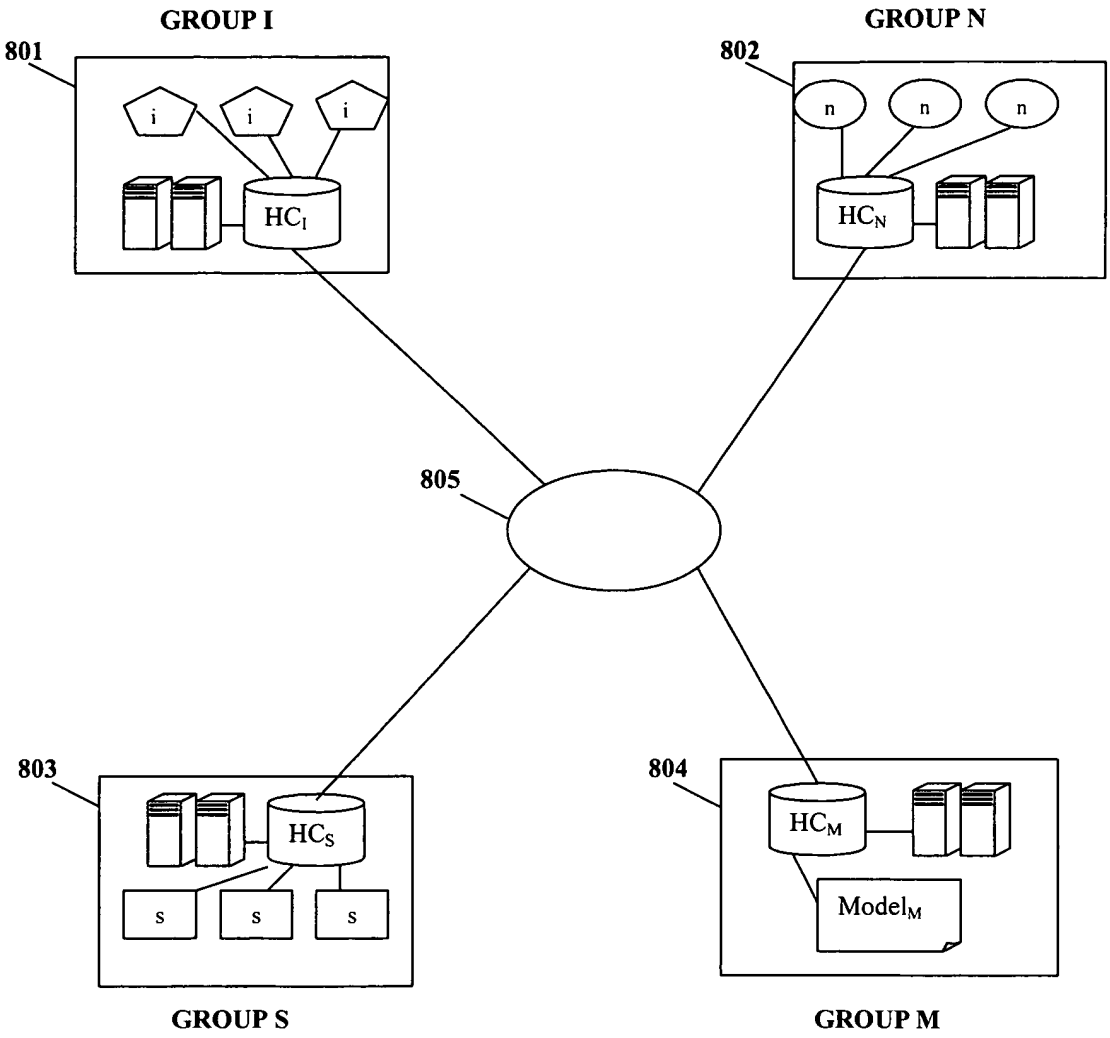
GROUP I
801
i
i
i
HC_I
GROUP N
802
n
n
n
HC_N
805
803
HC_S
s
s
s
GROUP S
804
HC_M
Model_M
GROUP M

FIG. 8

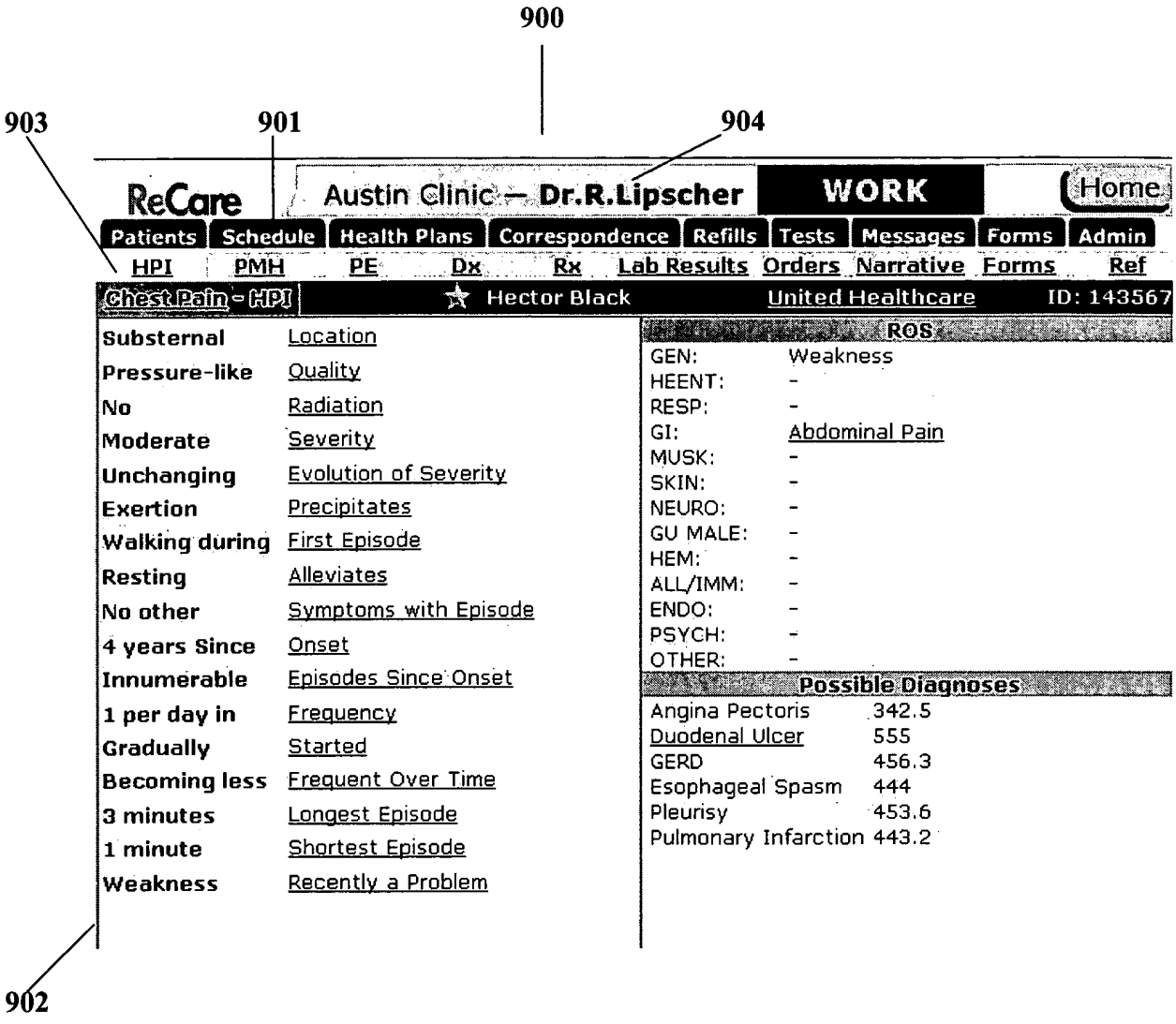
900
903
901
904
ReCare
Austin Clinic – Dr.R.Lipscher
WORK
Home
Patients
Schedule
Health Plans
Correspondence
Refills
Tests
Messages
Forms
Admin
HPI
PMH
PE
Dx
Rx
Lab Results
Orders
Narrative
Forms
Ref
Chest Pain - HPI
Hector Black
United Healthcare
ID: 143567
Substernal Location
Pressure-like Quality
No Radiation
Moderate Severity
Unchanging Evolution of Severity
Exertion Precipitates
Walking during First Episode
Resting Alleviates
No other Symptoms with Episode
4 years Since Onset
Innumerable Episodes Since Onset
1 per day in Frequency
Gradually Started
Becoming less Frequent Over Time
3 minutes Longest Episode
1 minute Shortest Episode
Weakness Recently a Problem
ROS
GEN: Weakness
HEENT: -
RESP: -
GI: Abdominal Pain
MUSK: -
SKIN: -
NEURO: -
GU MALE: -
HEM: -
ALL/IMM: -
ENDO: -
PSYCH: -
OTHER: -
Possible Diagnoses
Angina Pectoris 342.5
Duodenal Ulcer 555
GERD 456.3
Esophageal Spasm 444
Pleurisy 453.6
Pulmonary Infarction 443.2
902

FIG. 9

Doc Code: AP.PRE.REQ

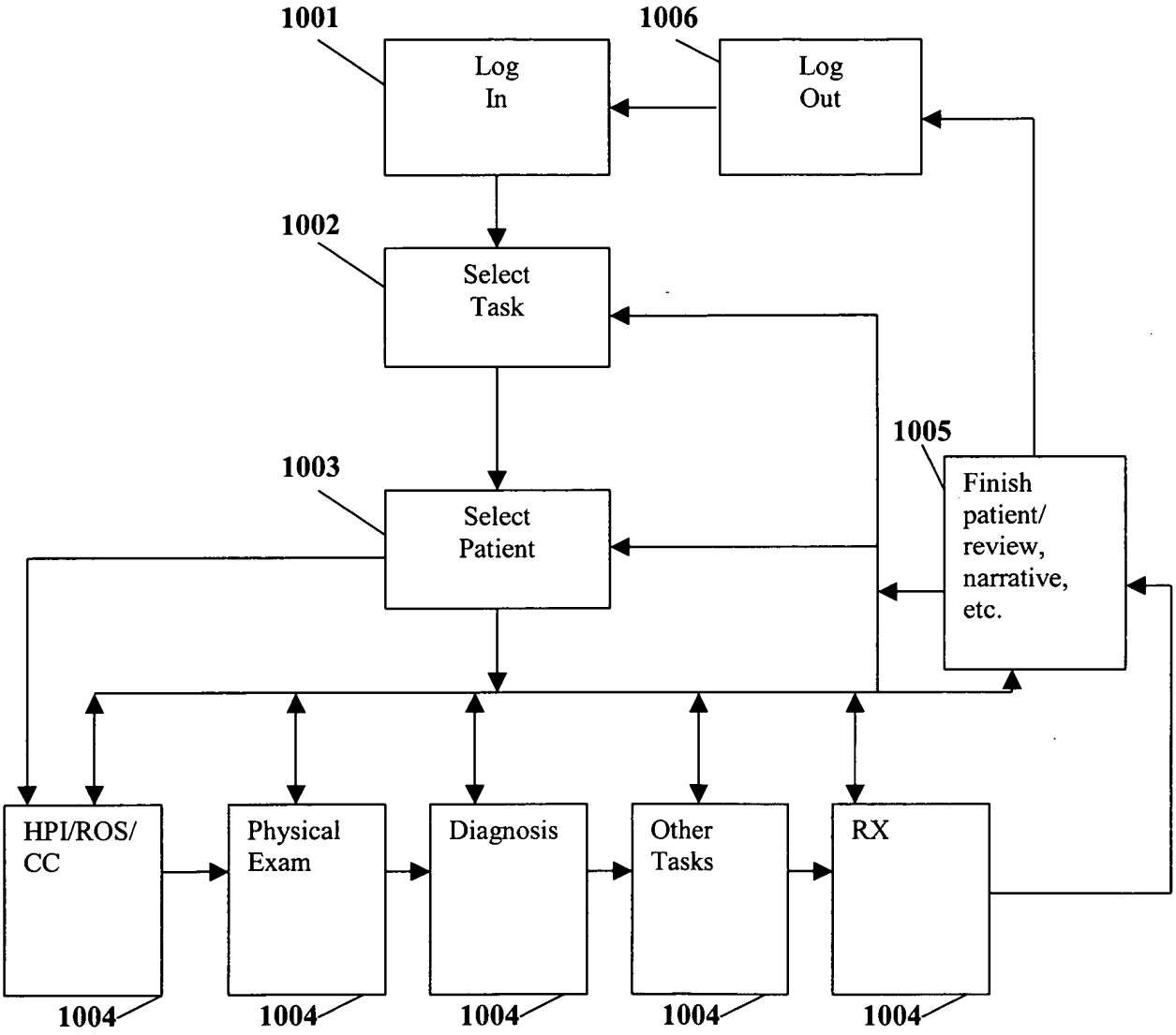

FIG. 10

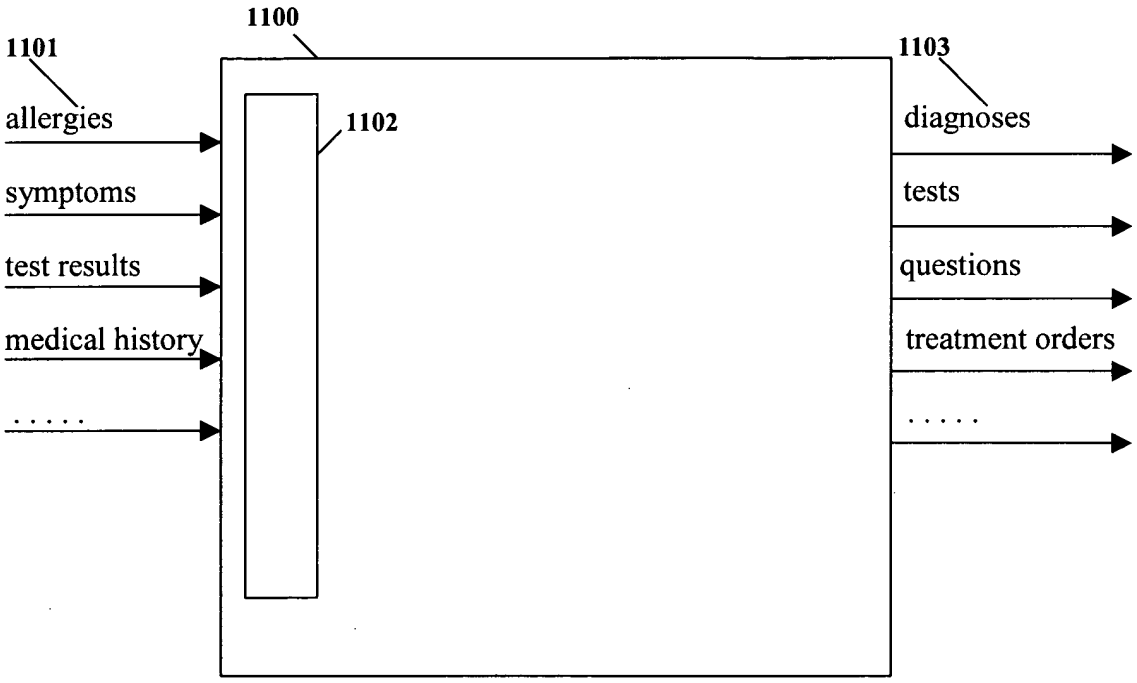
1100
1101
1102
1103
allergies
symptoms
test results
medical history
. . . . .
diagnoses
tests
questions
treatment orders
. . . . .

FIG. 11

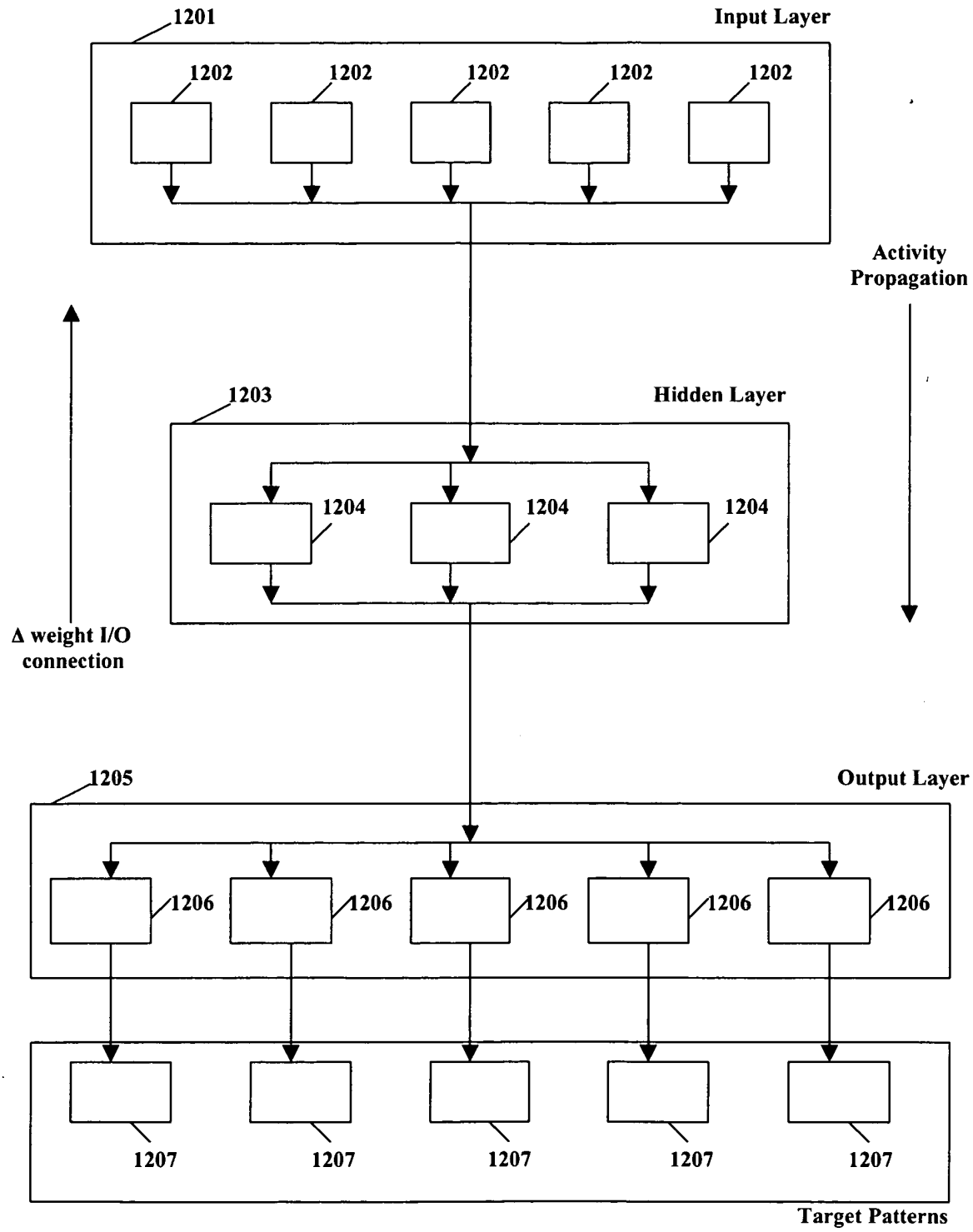
1201
Input Layer
1202
1202
1202
1202
1202
Activity
Propagation
1203
Hidden Layer
1204
1204
1204
Δ weight I/O
connection
1205
Output Layer
1206
1206
1206
1206
1206
1207
1207
1207
1207
1207
Target Patterns

FIG. 12